

EUROPE / NORTH AMERICA

PRIMEVAL BEECH FORESTS OF THE CARPATHIANS AND OTHER REGIONS OF EUROPE

**ALBANIA / AUSTRIA / BELGIUM / BULGARIA / CROATIA / ITALY / ROMANIA /
SLOVENIA / SPAIN / UKRAINE**



Mixed Beech Forest, Austria © IUCN / David Mihalic

WORLD HERITAGE NOMINATION – IUCN TECHNICAL EVALUATION

PRIMEVAL BEECH FORESTS OF THE CARPATHIANS AND OTHER REGIONS OF EUROPE (ALBANIA / AUSTRIA / BELGIUM / BULGARIA / CROATIA / ITALY / ROMANIA / SLOVENIA / SPAIN / UKRAINE) – ID N° 1133 Ter

IUCN RECOMMENDATION TO WORLD HERITAGE COMMITTEE: To defer the nomination under natural criteria.

Key paragraphs of Operational Guidelines:

Paragraph 77: Nominated extension does not meet World Heritage criteria, but some component parts would be appropriate for inclusion in revised proposals for extension of the presently inscribed property.

Paragraph 78: Nominated property does not meet integrity, protection and management requirements.

Background note: IUCN evaluated the Primeval Forests of Slovakia, nominated by Slovakia, as a serial natural property in 2003; however, the State Party withdrew the nomination and it was not discussed at the session of the World Heritage Committee (Suzhou, 2004). IUCN's evaluation, at that time, highlighted the need for the States Parties of Slovakia and Ukraine to work together to better conserve the remaining beech forests. In 2006, the States Parties of Slovakia and Ukraine jointly submitted a new nomination for a transnational serial natural property of key remnants of their remaining Carpathian beech forests which was inscribed as the "Primeval Beech Forests of the Carpathians" in 2007 (Decision 31 COM 8B.16) after a positive IUCN recommendation.

In 2010, the Ancient Beech Forests of Germany was nominated as a transnational serial extension of the above site in Slovakia and Ukraine. This nomination changed the scope of the Outstanding Universal Value to include ancient (rather than primeval) forests where past human activity had varying levels of prominence and in which historical forest use including logging, fuelwood collection, hunting and forest pasture had taken place. IUCN recommended deferral of this extension, but the World Heritage Committee approved the extension in 2011 creating an enlarged serial property shared across three countries and with a new name: Primeval Beech Forests of the Carpathians and the Ancient Beech Forests of Germany (Decision 35 COM 8B.13). In its Decision, the Committee encouraged the States Parties to "further these efforts by cooperating with the support of IUCN and the World Heritage Centre, with other interested States Parties towards a finite serial transnational nomination in order to assure the protection of this unique forest ecosystem."

The Committee's attention is also drawn to IUCN's previous evaluations of 2007 and 2011 (<http://whc.unesco.org/en/list/1133/documents/>) which contain relevant analysis, and to the fact that the current inscribed site is to be considered in relation to State of Conservation issues under item 7B of the agenda of the same meeting at which this nomination is being made.

The Committee's attention is also drawn to the fact that the nomination under consideration was originally made by a group of State Parties including Poland; however Poland withdrew its beech forest components from the nomination prior to IUCN's evaluation.

1. DOCUMENTATION

a) Date nomination received by IUCN: 24 March 2016

b) Additional information officially requested from and provided by the States Parties: Following the IUCN World Heritage Panel, a progress report was sent to the States Parties on 24 January 2017. This letter advised on the status of the evaluation process and highlighted a range of fundamental matters which arose from the Panel's initial deliberations on the nomination. Issues raised included the conceptual rationale for the transnational extension and a trend in this nomination toward smaller, less viable components and buffer zones. Additional concerns included the configuration of the components and their buffer zones as well as the relationship of the nominated property with overlapping protected areas

and formal zoning systems. Several issues were also raised concerning protection and management including the additional protection and effectiveness afforded by the buffer zones; effectiveness of transnational coordination; proposed funding arrangements; and how the proposed extension would be integrated with the existing World Heritage property in Slovakia, Ukraine and Germany.

A meeting between IUCN and technical representatives from Austria, Belgium, and Spain representing the nomination, was held, at the request of the State Parties, at IUCN's Headquarters on 1st February, 2017. The meeting provided an opportunity to further elaborate on the progress report and clarify specific issues raised by the IUCN Panel. The States Parties provided additional information, received on 28 February 2017, in response to issues raised in the December letter and the February meeting.

c) Additional literature consulted: IUCN's previous evaluations consulted a wide array of relevant reference material for the biology, ecology, protection and management as well as the comparative values of European Beech Forests. Comprehensive reference lists were compiled within IUCN's 2007 and 2011 evaluations which are available as referenced above. IUCN also reviewed and drew upon the series of workshops and technical meetings arranged through various European States Parties to screen potential beech forest sites for selection. This was a comprehensive screening process occurring over 2.5 years (2012-2014) analysing peer reviewed literature and other sources. New sources consulted included: Ibisch, P. (2014) *Research and Development Project, European World Heritage Beech Forests, Final Project Report*. Eberswalde: Centre for Economics and Ecosystem Management. https://www.bfn.de/fileadmin/BfN/internationalnaturerschutzhut/Dokumente/FG_I23/Report_EUROWEBU_bf_finaI.pdf. Accessed 19 January 2016; Kraus, D. and F. Krumm (ed) (2013). *Les approches intégratives en tant qu'opportunité de conservation de la biodiversité forestière*. Germany; Vandekerckhove, K. (2013). *Integration of Nature Protection in Forest Policy in Flanders (Belgium)* INTEGRATE Country Report. EFICIENT-OEF, Freiburg; Godefroid, S. and Koedam, N. (2003). *Distribution pattern of the flora in a peri-urban forest: an effect of the city-forest ecotone*. Landscape and Urban Planning 65 (2003) 169–185; and Bruxelles Environnement. *La Forêt de Soignes*. IBGE Institut Bruxellois pour la Gestion de l'Environnement. <http://www.bruxellesenvironnement.be/>. Accessed 19 March 2017.

d) Consultations: 8 desk reviews received. The five missions necessary to undertake the evaluation of this nomination spent a combined 44 days in the field visiting all nominating States Parties and all clusters. It was not possible to physically visit all 63 component parts, however, the missions were able to gain a good sense of the nominated property on the ground and to interact with a broad array of officials and stakeholders. The five missions met with national UNESCO Commissions, various elected officials, government officers at national, regional and local levels (in particular from ministries and departments of environment, water and forests), site management staff, scientists/researchers, environmental educators and a wide range of stakeholders including NGOs, local communities, tourism operators etc. across the ten States Parties; there are too many specific institutions and organisations to list individually. Five separate field evaluation reports were analysed by the IUCN Panel and the opportunity was taken to conduct a joint teleconference with all field evaluators during the course of the Panel's December meeting.

e) Field Visits: Due to the unprecedented complexity of this nomination, five field missions were necessary as follows:

Field mission 1: Romania and Ukraine, Kumiko Yoneda, 26 September to 5 October 2016

Field mission 2: Spain and Belgium, Josephine Langley, 28 September to 4 October 2016

Field mission 3: Albania and Bulgaria, Elena Osipova, 1-9 October 2016

Field mission 4: Italy, Lu Zhi, 2-9 October 2016

Field mission 5: Austria, Slovenia and Croatia, David Mihalic, 4-13 October 2016

f) Date of IUCN approval of this report: April 2017

2. SUMMARY OF NATURAL VALUES

The nomination Primeval Beech Forests of the Carpathians and Other Regions of Europe is a transnational serial extension to the Primeval Beech Forests of the Carpathians and the Ancient Beech Forests of Germany (Slovenia, Ukraine and Germany). The nominated property spans ten States Parties (Albania, Austria, Belgium, Bulgaria, Croatia, Italy, Romania, Slovenia, Spain and Ukraine). As originally nominated the property included components from the State Party of Poland, however these were withdrawn.

The nominated property includes 63 components totalling 58,353.04 ha with a combined buffer zone area of 191,413.09 ha. If approved, the extension would result in a property of 92,023.24 ha with a buffer zone of 253,815.69 ha. There are currently 16 transboundary natural or mixed sites on the World Heritage list and, none of these span the territories of more than three countries, so this nomination represents an unprecedented level of both proposed international cooperation, but also challenge and complexity.

Since the end of the last Ice Age, European Beech spread rapidly from a few isolated refuges in the Alps, Carpathians, Mediterranean and Pyrenees to Central Europe, the Baltic Sea, and to the British Isles, Scandinavia and Poland in a short period of time of a few thousand years, a process which is still ongoing. The beech's highly successful expansion has to do with its flexibility and tolerance to different climatic, geographical and physical conditions. The 11 species of the genus *Fagus* are found only in the temperate nemoral zone of eastern North America, Europe, and Asia. The European Beech (*Fagus sylvatica*) does not naturally occur outside of Europe. The European Beech represents the main climax tree species in the temperate zone of Central Europe and historically is a significant forest constituent in an area extending from the north of Spain and the south of England and Sweden, to the east of Poland, the Carpathian Arc and south of the Balkan and Apennine peninsulas. The forests span the biogeographical provinces of the Atlantic, Central European Highlands, Pannonian and Balkan Highlands according to Udvardy's classification. A European regional-scale biogeographic system has been developed to identify different ecoregions which are characterized by specific climatic and floristic diversity. During the site screening process conducted by the States Parties, experts refined these bioregions to settle upon 12 European Beech Forest Regions (BFR). These BFRs were used as a framework to identify beech forest representatives of the spectrum of post glacial spread and development within different environmental

gradients across the continent. Natural European beech forests are often monodominant stands of this single species, yet they display an enormous spectrum of different plant associations and associated biodiversity underneath their canopies. Since the late Holocene, human intervention has dramatically reduced the coverage of beech forests and today, only small forest remnants remain with primeval and old growth characteristics.

Table 1 outlines the components making up the nominated property. It comprises a mixture of single components surrounded by their own buffer zone as well as clusters of components surrounded by a linking buffer zone. The individual components vary greatly in size from the smallest, the Sonian Forest – Réserve Forestière (Belgium) at 6.5 ha to the largest, Domogled-Valea Cernei – Domogled-Coronini-Bedina (Romania) at 5,110.63 ha.

State Party	Component Area	Nominated Area (ha)	Buffer Zone Area (ha)
Albania	Lumi i gashit	1,261.52	8,977.48
	Rrajca	2,129.45	2,569.75
Austria	Dürrenstein	1,867.45	1,545.05
	Kalkalpen - Hintergebirge	2,946.20	14,197.24
	Kalkalpen - Bodinggraben	890.89	
	Kalkalpen – Urlach	264.82	
	Kalkalpen – Wilder Graben	1,149.75	
Belgium	Sonian Forest – Forest Reserve “Joseph Zwaenepoel”	187.34	4,650.86
	Sonian Forest – Grippensdelle A	24.11	
	Sonian Forest - Grippensdelle B	37.38	
	Sonian Forest – Réserve forestière du Ticton A	13.98	
	Sonian Forest – Réserve forestière du Ticton B	6.50	
Bulgaria	Central Balkan – Boatın Reserve	1,226.88	851.22
	Central Balkan - Tsarichina Reserve	1,485.81	1,945.99
	Central Balkan – Kozyastena Reserve	644.43	289.82
	Central Balkan – Steneto Reserve	2,466.10	1,762.01
	Central Balkan - Starareka Reserve	591.20	1,480.04
	Central Balkan - Dzhendema Reserve	1,774.12	2,576.63
	Central Balkan – Severen Dzhendem Reserve	926.37	1,066.47
	Central Balkan - Peeshtiskali Reserve	1,049.10	968.14
	Central Balkan – Sokolna Reserve	824.90	780.55
Croatia	Hajdučki i Rožanski Kukovi	1,289.11	9,869.25
	Paklenica National Park – Suva draga-Klimenta	1,241.04	414.76
	Paklenica National Park - Oglavinovac-Javornik	790.74	395.35
Italy	Abruzzo, Lazio & Molise - Valle Cervara	119.70	751.61
	Abruzzo, Lazio & Molise - Selva Moricento	192.70	
	Abruzzo, Lazio & Molise - Coppo del Morto	104.71	415.51
	Abruzzo, Lazio & Molise - Coppo del Principe	194.49	446.62
	Abruzzo, Lazio & Molise - Val Fondillo	325.03	700.95
	Cozzo Ferriero	95.74	482.61
	Foresta Umbra	182.23	1,752.54
	Monte Cimino	57.54	87.96
	Monte Raschio	73.73	54.75
	Sasso Fratino	781.43	6,936.64
Romania	Cheile Nerei-Beuşniţa	4,292.27	5,959.87
	Codrul Secular Şinca	338.24	445.76
	Codrul Secular Slătioara	609.12	429.43
	Cozia - Masivul Cozia	2,285.86	2,408.83
	Cozia - Lotrisor	1,103.30	
	Domogled - Valea Cernei - Domogled-Coronini-Bedina	5,110.63	51,461.28
	Domogled - Valea Cernei - Iaua Craiovei	3,517.36	
	Domogled - Valea Cernei - Ciucevele Cernei	1,104.27	
	Groşii Tibleşului – Izvorul Şurii	210.55	563.57
	Groşii Tibleşului – Preluci	135.82	
	Izvoarele Nerei	4,677.21	2,494.83
	Strîmbu Băiut	598.14	713.09
Slovenia	Krokar	74.50	47.90
	Snežnik-Ždrecle	720.24	128.80
Spain	Hayedos de Ayllón - Tejera Negra	255.52	13,880.86
	Hayedos de Ayllón - Montejo	71.79	
	Hayedos de Navarra - Lizardoia	63.97	24,494.52

	Hayedos de Navarra - Aztaparreta	171.06	14,253.00
	Hayedos de Picos de Europa - Cuesta Fria	213.65	
	Hayedos de Picos de Europa - Canal de Asotin	109.58	
Ukraine	Gorgany	753.48	4,637.59
	Roztochya	384.81	598.21
	Satanivska Dacha	212.01	559.37
	Synevyr – Darvaika	1,588.46	312.32
	Synevyr – Kvasovets	561.62	333.63
	Synevyr – Strymba	260.65	191.14
	Synevyr – Vilshany	454.31	253.85
	Zacharovanyi Krai - Irshavka	93.97	1,275.44
	Zacharovanyi Krai - Velykyi Dil	1,164.16	
TOTAL for proposed extension		58,353.04	191,413.09
Slovakia, Ukraine, Germany		PBFs of the Carpathians and the ABFs of Germany	33,670.20
TOTAL if extension approved		92,023.24	253,815.69

Table 1 Components making up the nominated extension to the Primeval Beech Forests of the Carpathians and the Ancient Beech Forests of Germany

Brief description of each of the country components/clusters

Albania

In Albania, the two nominated components are located in two different regions separated by a significant distance. The Lumi i gashit component is a Strict Nature Reserve (IUCN Category Ia) located within the Valbona Valley National Park. The nominated component is very inaccessible and includes areas of truly primeval forest stands within an old-growth forest setting. The Rrajca component is also a Strict Nature Reserve (Category Ia) within the Shebenik-Jablanicë National Park. The proposed boundaries of the component include the best preserved primeval, as well as old-growth ancient stands of European Beech. It appears that this area has never been significantly exploited or disturbed due to its remoteness, inaccessibility and in more recent times, due to its location within the border zone between Albania and Yugoslavia.

The two components in Albania represent two climatically different regions (Mediterranean climate in Rrajca and North Mountain subzone of the Mediterranean climate in Lumi i gashit). They are also characterized by different types of relief with beech forests occurring on steep slopes in Lumi i gashit. In both components, beech, while being a predominant species, occurs together with other species: in Lumi i gashit these are mainly coniferous species - *Abies alba*, *Pinus peuce* (endemic to the Balkans) and *Pinus heldreichii*, while in Rrajca it is mainly *Pinus peuce*, *Abies alba* as well as *Sorbus aria*.

Austria

Five components are found in Austria, four of which are clustered within the Kalkalpen National Park. The Dürrenstein component is formally designated wilderness, a rare designation for Europe. It is within the largest beech forest (beech-fir-spruce) in the Austrian Alps (3,500 ha) and the most natural parts comprise about half this area which is the nomination of which a further 277 ha is primeval and never managed. This is a private area but through strong protective decrees, purchase and transfer of legal

rights to the State, and other protective measures is completely protected and managed by Lower Austria as a Category Ia/Ib) protected area. Beech forests grow to the timberline and into krummholz (stunted forest near the timberline). *Asperulo-Fagetum* beech forests dominate along with *Adenostylo-Fagetum* and *Cephalanthero-Fagion* on dryer soils. As with primeval beech forests in the existing Carpathians World Heritage property, Dürrenstein has highly diverse fungi and mycoflora with several species endemic to the nominated area and over 600 species of macrofungi.

The Hintergebirge, Bodinggraben, Urlach and Wilder Graben components are all within the Kalkalpen National Park which forms the 14,200 ha buffer zone for the four sites. These areas have seen past human use and management (for example some timber extraction and use) but their integrity is largely preserved and they have not been used for more than 140 years. They are included in the nomination extension as they add value to the existing forests in the Carpathians and Germany with their representation of mountain beech forests across an altitudinal gradient from 396 to 1,450 m.a.s.l. Here are diverse site conditions with natural meadows and forest-free zones affected by slope, aspect and snow, including avalanche chutes, producing several biotypes with dwarf beech and “saber” growth forests. The components sit within the Northern Limestone Alps and the beech forest associations are *Helleboro nigri-Fagetum* (endemic to the area), *Cyclamini-Fagetum*, *Adenostyla glabrae-Fagetum*, *Cardamine trifoliata-Fagetum*, *Saxofrago rotundifoliae-Fagetum*, and *Galio odorati-Fagetum*. The area was not glaciated and thus has a high number of endemic species.

Belgium

The Sonian Forest is located in the centre of Belgium, less than 10 km from the center of Brussels. The five components are small, surrounded by a linking buffer zone, and represent the most natural parts of a peri-urban forest containing old beech-dominant (150-250 years old) and naturally regenerated forest which is now strictly protected. Beech trees in the Sonian Forest were favoured through human intervention, particularly through the work of the young Austrian landscape architect, Joachim Zinner, who organised

beech plantings during the time of the Austrian Hapsburgs (1714-1795). At that time, beech was planted on a massive scale and selectively thinned to encourage tall monumental trees referred to as “cathedral trees”. Whilst the forests within the nominated components are now the most undisturbed parts of the Sonian system, it is highly likely that some of the cathedral trees in these were planted in the past. The Sonian Forest is the northern most extent of this serial transnational extension and the nomination proposes it to represent Atlantic Beech Forest; however this is a large BFR with natural forested areas in other countries. The Sonian Forest is important as a cultural landscape for its archaeological remains, history of ownership and activities, and for its monumental trees but it is not, in IUCN’s view, a result of natural ecological processes. The Sonian Forest is currently of recreational and scientific importance and small scale commercial forestry activities are ongoing.

Bulgaria

In Bulgaria, all nine components are Strict Nature Reserves (Cat Ia) located within the Central Balkan National Park (Cat II) and representing its core zones (the total area of the proposed components covers approximately 15% of the territory of the national park). These areas can be considered as ancient beech forests with average age of beech communities being 135 years according to the nomination dossier. However, due to the location of the Central Balkan National Park in close proximity to human settlements and in the vicinity of major historical transport routes, it has always been a major crossroads of the Balkans and most of its territory has most likely been subject to some human disturbance and use at some point in time. Particularly, the coniferous species in the broader region have been exploited starting from ancient times and throughout modern history. However, the strict nature reserves within the national park are the most pristine areas and include some primeval areas that have never been touched. Since all nominated components in Bulgaria are located within the same National Park, they are similar; however, they also show some differences and complementarities in terms of tree species composition, including pure beech stands with very high stock density in the Boatin component.

Croatia

The Hajdučki i Rožanski Kukovi component is a strict nature reserve located within Northern Velebit National Park. The area extends beyond timberline to encompass Illyric subalpine beech, subalpine spruce and dwarf pine forests. These *Ranunculo platanifolii-Fagetum* and *Polysticholonchitis-Fagetum* forests are influenced by the meeting and mixing of Continental and Mediterranean climates across the long, north-south Velebit Mountain (Dinaric Alps) shared by all three Croatian nominated component parts. In this component, one of the coldest and most humid in Croatia, snow dominates along with the bora katabatic (or downslope) wind which can be, in turn, dry and extremely strong, often to hurricane force. These conditions cause interesting tree shapes, bent “saber”

trees and typical krummholz effects at treeline. The nomination includes forests from 1,200 to 1,500 m.a.s.l. and represents the component with the highest and wettest beech forests in the Illyric region and contributes to the expansion from refugia. The whole area is an endemism hot spot for Croatia, plants characteristic of coastal, inland, and alpine habitats prevail and flora (Illyrian and Dinar vegetation types) is preserved in almost pristine form. There are many endemic species native only to the area including cave/subterranean species.

Located within the Paklenica National Park the two components of Suva draga-Klimentina and Oglavinovac-Javornik share the same limestone/dolomite Velebit Mountain with the strict reserve (above). The two nominated parts lie within a national park that is influenced by the meeting and mixing of Continental, Alpine and Mediterranean climates across the southern Velebit Mountain (Dinaric Alps). There are four beech communities here including thermophilous beech forests with autumn moor grass, subalpine beech, and southeastern Alpine Beech. The nomination dossier only provides information on the National Park but it can be concluded that the beech forests in both components are old growth and little used. Trees are up to 250 years old and forest communities across both nominated parts range from inland plateau (Suva) to high Alpine (Oglavinovaca) and comprise the oldest and largest beech forest complex on the Adriatic Coast. This is the only component in the Illyric Beech Region that represents the transition of beech forests to the Mediterranean oak forests.

Italy

The Italian components represent important aspects of postglacial recolonization: the Mediterranean refuge and its later expansion. Currently, no significant human activities occur within these components except for grazing and tourism. Five of the ten components are clustered within Abruzzo, Lazio and Molise National Park, two of the national park components have a linking buffer zone with the remaining three having separate surrounding buffer zones. Three properties in Italy are less than 100 ha and nearly all properties have had minor influence from historical logging or forest management. These components have high structural complexity and contain the oldest beech trees in Europe (560 y.o.) and trees of more than 400 years of age are widespread. All component parts are beech-dominated forests of the montane and upper-montane belt, growing on limestone/dolomite at elevations between 1,400 m and the tree line (1,850–1,950 m.a.s.l.). They belong to the associations *Anemone apenninae-Fagetum* and *Cardamino kitaibelii-Fagetum*. The components are small but in a natural state and located at high elevation, at the highest limit of the vegetation and most of them cannot expand very much due to the ecological context.

Cozzo Ferriero is a strict reserve (Cat Ia) that covers only 0.05% of the much larger Pollino National Park. The component part is mostly covered by an early old-growth forest, unexploited in the last 80 years due to

its remoteness. It has an uneven-age structure, with beech trees up to 400 years old. This component is the southern most of the proposed serial extension. The Foresta Umbra component includes most of the area of two adjacent forest reserves (Foresta Umbra and Falascone), within the Gargano National Park. This component contains very tall beech trees (45 m) and other tree species such as *Acer campestre* and *Taxus baccata* which reach exceptional, uncommon size. The tallest beech trees (above 53 meters) are found in the Monte Cimino component. The beech forest survived at the top of a volcanic mountain, where it grows on fertile deep soils. Its biogeographic importance is also due to its position, at the transition between the low-elevation and the mountain belts. The vegetation is classified into the association *Allio pendulini-Fagetum sylvaticae* and has not been exploited for the last 70 years. The Monte Rachio component part is located within the Bracciano-Martignano Natural Park. It represents the warmest site with very fast growth rates and demographic turnover. The beech forest is mixed with other tree species (chestnut, hornbeam, maples, Turkey Oak). The component part Sasso Fratino Nature Reserve was created in 1959 as the first strict reserve in Italy. It sits within the Foreste Casentinesi, Monte Falterona and Campigna National Park (about 36,000 ha). Sasso Fratino includes beech trees of more than 500 y.o. and exhibits a large ecological gradient in a biogeographic transition zone between the temperate and Mediterranean climate regimes that transition between the Central European and Mediterranean floristic regions.

Romania

Romania includes 12 components which together cover the largest area of the proposed extension, some 23,983 ha with a combined buffer zone area of 64,477 ha. Mostly, these are individual components with a surrounding buffer zone, and in some cases the buffer zone links two or three components.

Cheile Nerei-Beuşniţa is one of the largest remnant virgin forests of temperate Europe. It is a pure and mixed beech-oak forest with beech cover of over 80%. This forest grows on limestone-rendzinic generated soils and on limestone rocks and is the most southern and lowest elevation forests in the nomination from the Carpathian Beech Forest Region. The Codrul Secular Şinca component has a mixed beech-silver fir forest with a high number of trees of ages 350 to 400 years. The specific soil and climate conditions lead to the highest growth rates known from the Carpathian Beech Forest Region and the site contains the tallest beech in Europe at 55.1 m. Codrul Secular Slătioara is a mixed beech-silver fir-spruce forest dominated by beech (60%) and includes protected alpine meadow. The component cluster of Cozia consists of two component parts: Masivul Cozia and Lotrişor, separated by the Olt River defile (a gorge that has been cut into the Transylvanian Alps). The Cozia - Masivul Cozia and Lotrisor components have a linking buffer zone and protect pure and mixed forest dominated by beech. This area differs from others by virtue of its gneissic bedrock, high variation of topography, large altitudinal gradient, rocky slopes,

and warmer climate. The Domogled-Valea Cernei cluster is a large complex of beech forests consisting of three components: Ciucevele Cernei, Iana Craiovei and Domogled-Coronini-Bedina, that are connected by a continuous forest cover and enveloped in a common much larger buffer zone. The components protect pure and mixed forest (72% of the cluster is mixed forest, 64% of cluster is beech dominated). The cluster has the largest elevational range of the nominated component extensions from the Carpathian Beech Forest Region and has diverse habitats. Groşii Țibleşului - Izvorul Şurii and Groşii Țibleşului - Preluci are also configured with a linking buffer zone. The components cover pure and mixed beech-spruce fir forest. 70% of the forests contains beech trees older than 140 years. Izvoarele Nerei is a pure beech forest which also provides large, contiguous and functional beech forest corridors for the fauna. Lastly, Strîmbu Băiuţ is a pure and mixed beech-silver fir forest which provides important wildlife habitat.

Slovenia

The Krokarn component in Slovenia is a small, but important relict protected as the Virgin Forest Krokarn with a long history of science and research. Genetic research from this area shows markers for beech forests in central Europe and as far away as Britain. There is no evidence of glaciation in this forest and no evidence of cutting or logging. The forest itself is typical old growth and is an important example of the montane association in the Illyric region. Snežnik is a large karstic mountain and a mixing zone between the Continental and Mediterranean climates influenced by the katabatic bora wind. It is a region of typical and near-natural subalpine beech which gives way to dwarf pine as one nears treeline. Evidence of heavy snow loads have caused “saber” trees, bent near the ground on steep slopes. While the mountain peak itself was covered by ice, relict species were maintained with beech forests re-established 8,000 years ago. Human use included burning for pastures which ended in the 19th century but some cutting occurred in some parts of the nominated component as recently as 1980. There are old-growth, likely primeval forests identified in steep, inaccessible parts of the nomination with logging pressure nearby.

Spain

The beech forest components in Spain complete a gap in the *Pyrenaic-Iberian* BFR and represent the western most extent of the serial extension. In Spain, small nominated areas have been embedded in much larger buffer zones. Two of the Hayedos de Ayllón components (Tejera Negra and Montejo) have a 13,880 ha buffer zone; the Hayedos de Navarra components (Lizardoia and Aztaparreta) share a buffer zone of nearly 24,500 ha; and the Cuesta Fría and Canal de Asotin components in Hayedos de Picos de Europa share a similarly larger buffer zone of 14,253 ha. Both humid (Picos de Europa and Navarra) and summer drought (Ayllón) conditions are found in the Spanish components.

The Hayedos de Ayllón components are in the Mediterranean biogeographical region in central Spain with acidophilous beech forests (*Galio rotundifolii-Fagetum sylvaticae*). The component part of Tejera Negra sits within a Natural Park in the Autonomous Community of Castilla-La Mancha. The component part of Montejo de la Sierra covers a small area in the core zone of a Biosphere Reserve in the Autonomous Community of Madrid. The forest types are high altitude beech forest in Tejera Negra and mixed oak (*Quercus pyrenaica* and *Q. petraea*) – beech forest in Montejo de la Sierra. The buffer zones are important for grazing and recreation. The component group of Hayedos de Navarra includes Aztaparreta and Lizarzoia in the western Pyrenees range with *Asperulo-Fagetum* beech forest and some Atlantic acidophilous beech forests. The components coincide with the borders of two Strict Reserves (Cat Ia). The buffer zone overlaps with the borders of three Natura 2000 Special Areas of Conservation. There is a large range of flora and fauna species present including sporadic presence of brown bear and the western limit of several European species. The buffer zone is important for recreation and tourism, forestry and grazing. Forestry and grazing activities can potentially interfere with the natural succession and expansion of old growth forest into the buffer zone. Hayedos de Picos de Europa consists of Canal de Asotin and Cuesta Fría. The forests mainly protect Medio-European limestone beech forests of *Cephalanthero-Fagion*. Atlantic acidophilous beech forest is also present in Cuesta Fría. The phytosociological association in Canal de Asotin is *Epipactido helleborines-Fagetum*, while in Cuesta Fría two different associations are found: *Blechno spicanti-Fagetum* and *Carici sylvaticae-Fagetum*. The buffer zone here is important for recreation and tourism including Nordic skiing in winter.

Ukraine

Nine components occur within Ukraine, three separate sites and two clusters. There is a mix of different boundary configurations in place.

The Gorgany component covers primeval and old-growth mixed coniferous-beech forests with trees having a mean age of between 250 to 280 years. The forest consists of beech, spruce, fir and Swiss-pine which is a relict species. The area is mountainous with a mosaic of habitats, rich in lichens, mosses and fungi. The Roztochya component is a hilly ridge (203-403 m.a.s.l.) representing the northeastern limit of beech distribution, and is characterized by rare groups of pine-beech forests [*Pineto (sylvestris)-Fageta (sylvaticae)*]. The forests coincide with a nature reserve and are in good condition having been protected from the 19th Century onwards. Individual trees are more than 200 years old. The Satanivska Dacha component also lies at relatively low elevations (from 300 to 395 m.a.s.l.). The main type of forest is hornbeam beech forest with *Carici pilosae-Fagetum* and *Galio odorati-Fagetum* associations. This component lies at the eastern limit of the beech forest's range, beyond which *Fagus sylvatica* occurs only as single trees. The forest of Roztochya and

Satanivska Dacha components are characterised by unique adaptation to the extreme climatic conditions in this region, namely the much lower humidity and rather dry summers. Four components are clustered in the Synevyr National Park which includes some of the largest beech forests that have survived in the Eastern Carpathians. The nomination notes that the local beech forests have never been exposed to any form of forest management. Each component has its own surrounding buffer zone with what appears to be a narrow buffer zone corridor area connecting the Darvaika and Strymba areas and a similar boundary configuration between the Kvasovets and Vilshany areas. The main types of forest here are pure beech and mixed beech-fir-spruce forests. Over 70% of the beech forests are occupied by the *Fagetum dentariosum* and *F. asperulosum* association. The Kvasovets and Vilshany components are directly adjacent to the existing World Heritage component of Uholka-Shyrokyi Luh in Ukraine. Finally, two components, Zacharovanyi Krai – Irshavka and Velykyi Dil are clustered with a linking buffer zone. The nomination dossier notes that these components are distinguished from the primeval forests of Slovakia and the Carpathian Biosphere Reserve (within the existing World Heritage property) by being distributed on volcanic bedrocks, which are represented by typical (*Fagetum sylvaticae*) and unique communities of beech (*Fagetum sylvaticae humile*, *Fagetum sylvaticae myrtillosum*, *Sorbeto-Fagetum humile*), which exist in the specific cool climate.

3. COMPARISONS WITH OTHER AREAS

Although IUCN, FAO, CBD and others use the term primary forest, there are a number of other terms used worldwide to describe the naturalness of forest systems: old growth, primary, virgin, frontier, intact etc. The terms primeval and ancient are in common use in Europe. Current thinking defines forests in terms of degrees of intactness (structural integrity, ecosystem function, species and genetic richness, habitat diversity etc.). Primary forest may be defined as largely undisturbed forests exhibiting the full range of ecological and evolutionary processes (including successional stages). These forests have largely continuous canopy cover and display a full complement of evolved characteristic plants and animals.

The nomination dossier includes a comparative analysis which appropriately compares the proposed extension components and clusters against relevant European Beech Forests. The nominated property is compared to six World Heritage properties and a further eight tentative listed properties in the deciduous forest regions of Europe. The analysis concludes that, besides the Primeval Beech Forests of the Carpathians and Ancient Beech Forests of Germany, only a few other existing World Heritage sites include beech forest. It also stresses that only the proposed extension has a focus on European Beech and possesses the spatial scope to protect these continental wide values.

The Outstanding Universal Value of Primeval Beech Forests of the Carpathians and the Ancient Beech Forests of Germany has been previously accepted by the World Heritage Committee. In terms of criterion (ix) the Committee stated “The Primeval Beech Forests of the Carpathians and the Ancient Beech Forests of Germany are indispensable to understanding the history and evolution of the genus *Fagus*, which, given its wide distribution in the Northern Hemisphere and its ecological importance, is globally significant. These undisturbed, complex temperate forests exhibit the most complete and comprehensive ecological patterns and processes of pure stands of European beech across a variety of environmental conditions and represent all altitudinal zones from seashore up to the forest line in the mountains. Beech is one of the most important elements of forests in the Temperate Broad-leaf Forest Biome and represents an outstanding example of the re-colonisation and development of terrestrial ecosystems and communities after the last ice age, a process which is still ongoing. They represent key aspects of processes essential for the long-term conservation of natural beech forests and illustrate how one single tree species came to absolute dominance across a variety of environmental parameters” (Decision 35 COM 8B.13).

Beyond the overall questions of Outstanding Universal Value, the other crucial issue with a serial site is the comparative analysis supporting the selection of appropriate component parts. The nominated extension to the existing property must demonstrate that it adds significant attributes to the agreed Outstanding Universal Value (in terms of values, integrity and protection and management), as articulated in the Committee Decision above, and/or improves integrity, protection and management. In this respect, IUCN recalls that, with the 2011 approval of the German extension, the Outstanding Universal Value of the Slovenian and Ukrainian Carpathians site was conceptually broadened to also include ancient beech forests, those forests with evidence of past human use but exhibiting a long period without disturbance.

The States Parties have clarified in supplementary information that the main goal of the nominated extension is to “preserve the last remnants of ancient and primeval European Beech forests as examples of complete and comprehensive ecological patterns and processes of pure and mixed stands across a variety of environmental conditions in the still ongoing postglacial continental wide expansion process”. In the IUCN Panel's view, this is consistent with the way in which the World Heritage Committee's understanding of values has evolved as the site has increased in size and complexity. Using the framework of the revised European Beech Forest Regions, the existing World Heritage property in Slovakia, Ukraine and Germany protects primeval and ancient beech forests covering three of the 12 BFRs (Carpathian, Baltic and Subatlantic-Hercynic). The nominated extension adds components and clusters to expand this representation to 10 of the 12 BFRs (there are no representative components from the Pannonic and Euxnic BFRs). The nomination argues that the components added to

the existing World Heritage site now “contain all elements pertaining to the complete illustration of the Outstanding Universal Value of the ongoing ecological processes following the last glacial period. From rejuvenation to degradation, from the gap in the forest canopy to the closed beech canopy, from the beech sapling to the majestic giant tree, the entire development cycle of natural beech forests is present in each of the component parts”. Despite this statement, IUCN is nevertheless not convinced that the site, as configured, ensures the ongoing ecological patterns and processes which are essential to support living and complex forests. There also seems to be an assumption in the nomination that having beech forest representation from each BFR will automatically contribute to the overall story of Outstanding Universal Value as defined. It is not clear what each BFR brings to this story of Outstanding Universal Value and a serial configuration which most effectively tells the story may have a skewed representation of BFRs.

A further fundamental point, also discussed under point 5 below, is that the current nomination clearly does not represent a finite series, nor indicate what an eventual finite series would be, despite the previous request of the World Heritage Committee. There are BFR that are not represented, and countries with significant beech forest not included in the nomination (most clearly Poland, who withdrew initially nominated component parts from the series).

In summary, IUCN considers that the current nomination does include many areas of good quality European Beech forest with the potential to strengthen the Outstanding Universal Value of the existing Primeval Beech Forests of the Carpathians and the Ancient Beech Forests of Germany World Heritage property, notably the larger component parts and those with the most primeval and ancient characteristics. Nevertheless, whilst the site review and selection process undertaken by the States Parties have worked to define a set of component parts and clusters which cover most of the European BFRs, there remain major questions related to the choice and configuration of the nominated components, integrity and some aspects of protection and management. These questions related to the justification of component parts within the nominated extension are further discussed in detail below.

4. INTEGRITY, PROTECTION AND MANAGEMENT

4.1. Protection

The nomination notes that a legally defined strict protection regime was a pre-requisite for site selection. Furthermore, that all nominated component parts are subject to strict protection on a permanent legal basis preventing negative human influences such as timber extraction, construction of infrastructure etc. Almost all the nominated components are publicly owned although there are some components or parts of complements which are privately owned, managed under contractual arrangements or managed through communities.

The components are protected by various pieces of national and regional legislation within the different countries. A schedule of protective instruments applying to each component and/or cluster is provided in the nomination dossier. The site selection process also chose components which have enjoyed long term protection and many areas are managed according to IUCN Category Ia). At national and local levels, there are management authorities in place, working within the legislative and policy frameworks to ensure the protection of these components, a point reinforced by the States Parties in their supplementary information. Most of the nominated components are embedded within larger protected areas and so are managed within that context, although details are lacking. Management systems vary between nominating States Parties with some having more top-down systems and others more participatory governance approaches.

The nomination dossier documents the history of protection and past human interventions in the nominated components. Some of the components, such as in Belgium, have some areas which were protected in the 1850s and other areas subject to much more recent protection decrees (2010 and 2016). Many have experienced past human interventions and a number have been free of active forestry practices for only a few decades. Whilst some of the areas have a similar legacy of past uses as the German additions approved in 2011, the series include areas (most notably in Belgium) where the scope of past use is of a different character with significant loss of naturalness.

All five IUCN field missions concluded that adequate protection regimes were in place within the nominated components; however, many concerns were expressed regarding how surrounding protected areas, zoning systems and the proposed World Heritage buffer zones will specifically protect Outstanding Universal Value in a consistent way across all components. This represents a critical issue, and in the view of IUCN, amounts to an inadequate overall protection of the nominated property from external threats, especially in view of the small size of many of them. This is further discussed below.

IUCN considers the protection status of the nominated property does not meet the requirements of the Operational Guidelines.

4.2 Boundaries

Site selection and design including the effectiveness of the buffer zone configurations are central considerations in the evaluation of this nomination.

IUCN notes that the nomination includes many components that are small (and some very small), including many components (over one third) under 300 ha. There is a clear and concerning trend toward smaller components compared to the existing property to which this nomination would serve as an extension, with the average size in the present nomination being 871 ha compared to an average of 2,200 ha in the inscribed site, a reduction of around 60%. Whilst there

are a number of large and impressive component parts included in the nomination, the small size of many components raises clear and serious concerns as to whether they can truly reflect “on-going post-glacial biological and ecological evolution of terrestrial ecosystems”. Similarly, buffer zones in the existing property average 4,160 ha, whereas they average 2,857 ha in the current nomination. In supplementary information, the States Parties have provided additional material and state that, for these forests, a 50 ha minimum size is adequate to support ongoing forest development and natural ecosystem dynamics. The States Parties indicated the inclusion of some smaller components (<300ha) is justified as these represented “the rear edge of the ecological amplitude of beech and that these ‘frontier posts’ are naturally limited to small island-like patches”. However, analyzing the component size based on 300 ha is somewhat misleading as 11 of the components are <100ha and four of the Belgium components are <50 ha which was argued by the States Parties as the minimum viable forest size, so these components are clearly inappropriate even on the minimalist argument advanced. IUCN wishes to recall that the purpose of the World Heritage Convention is to recognize Outstanding Universal Value, and an approach to selecting sites based on minimum requirements is clearly not appropriate. Furthermore, a large number of small components creates clear risks of extensive State of Conservation issues, which the Committee will note is already a factor in the existing inscribed site. IUCN considers in this regard that the site configuration is fundamentally flawed and needs to be reconsidered to be more selective, and to maintain at least the current standards of the series in terms of the average size of component parts included, with a minimal number of small sites, included only if they are truly exceptional.

In its progress report, the IUCN Panel expressed concerns about some of the site selections including the rationale for multiple components in some BFRs and if this entailed redundancy or duplication. The States Parties provided additional information on the process of filtering potential sites down to the ones proposed and clarified that, where possible, some deliberate redundancy was considered beneficial to counter threats and the risk of small fragments being impacted to the point where they lose their values. Nevertheless, it appears there is great variety in the approach to site selection in this regard between different BFRs and countries.

IUCN respects there has been a lengthy and complex site selection process undertaken by the States Parties and, whilst concluding that this selection is problematic, believes it is neither appropriate via the present evaluation to “pick and choose” between components that are (and are not) consistent with the existing inscribed site nor try and redesign buffer zones. Nevertheless, it is clear that maintaining ecological patterns and processes for European Beech across a variety of environmental conditions requires a configuration where components are ecologically viable, well-buffered and connected. As one example, to most clearly illustrate these problems, the Sonian

Forest components in Belgium clearly are inappropriate for inclusion in the series. In this case, integrity requirements are not met as all five components in this cluster are small, and four components are exceptionally small (24, 37, 14 and 6.5 ha) and well below even the minimum 50 ha size for viability of an old-growth beech forest stated by the States Parties in supplementary information. Fundamentally, as noted above, it is apparent that beech trees in the nominated components of this forest were planted (albeit centuries years ago) and beech has also been actively favored in management over oak and other native tree species. IUCN considers these forests are not the result of natural ecological processes and evolution.

The general concerns about small component size is mitigated, but not fully addressed, by the fact that most of the nominated components are strict nature reserves embedded in larger protected areas and that some protected areas contain several components within them, grouped together as a cluster. However, in many instances the protected areas in which the components are found allow activities such as grazing/transhumance, forestry, gathering of plants and mushrooms, recreational activities etc., in some cases at intense levels, which threaten the integrity of the nominated components. Reviewers have noted that some buffer zones may permit logging to open up canopies by up to 60%. In addition, specific management measures (restrictions on uses in the buffer zone or increases in staffing to monitor the site) do not seem to be foreseen to ensure the continued integrity of the components. The rationale for this is that many of the nominated components are designated as strict nature reserves with non-intervention as a management principle and are already embedded in protected areas, and therefore do not require specific protective measures. However, the current degree of use in many buffer zones, and the possibility that World Heritage status would increase visitor pressures, suggest that a business as usual approach to management in buffer zones is not sufficient to guarantee maintenance of Outstanding Universal Value. IUCN stressed the importance of effective buffering in its 2011 evaluation of the German extension wherein good buffer zone design and effectiveness were seen as the only feasible way to protect the integrity of these small forest remnants, a situation amplified in this nomination as buffer zones are smaller. Whilst not formally part of the nominated extension, the buffer zones of the nominated components and clusters are covered within the proposed Integrated Management System (IMS) in recognition of their importance.

In addition, the approach to designing the buffer zones in different components/clusters differs greatly from country to country and is inconsistent across the nominated series. For example, within the nomination dossier, the map of Snežnik-Ždrecle (Slovenia) shows the nominated area surrounding by a very narrow uniform-width buffer zone of perhaps 50-60m. The nominated area is more than 5.5 times the area of the buffer zone. Contrasting this is the immediately following map of Hayedos de Ayllón - Tejera Negra

and Montejo components (Spain) where an entirely different approach has been taken. Here there is a linking buffer zone of 13,880.86 ha enveloping both small components, and the buffer zone is 42 times larger than the nominated area. The site design in all the Spanish components appears to have adopted an approach to envelop the smaller components within larger buffer zones. Other State Parties have adopted a mixed approach – some components with small surrounding buffer zones, others embedded in larger buffering systems. It is also not clear how World Heritage buffer zones add to the protection already afforded by protected area zoning systems or how the management of the buffer zones will favor the maintain of the Outstanding Universal Value attributes and the integrity of each cluster in the long term. On the contrary, based on the information provided, it seems that the present management and use of buffer zones exerts high pressure on many nominated clusters.

To sum up, the proposed extension comprises remnant areas of a beech forest that was formerly more widespread across Europe. An appropriate protection context is therefore critical to ensure the stated Outstanding Universal Value is retained and that ongoing dynamic forest development continues. IUCN considers that an extensive review of the site components as well as the buffer zone boundaries of the site is necessary to ensure a consistent and cohesive approach across all components and clusters. Similarly, a review should be undertaken to guarantee that consistent and sympathetic buffer zone management regimes are in place. This is consistent with proposals within the planned expanded IMS to build greater connectivity across the beech forest network. Taken as a whole, these measures would assure that component parts are ecologically viable and that surrounding forest management practices support the protection of Outstanding Universal Value and mitigate any negative impacts from external threats. IUCN would be willing to work with the States Parties to undertake this review.

IUCN considers that the boundaries of the nominated property and buffer zones clearly do not meet the requirements of the Operational Guidelines.

4.3 Management

The nomination dossier contends that the component parts represent primeval or ancient beech forests which, by definition, should only require limited active management, the main task being to enforce a strict non-intervention strategy. Logging, thinning and the use of heavy machinery is prohibited inside the component parts as is grazing and any infrastructure construction. Public access is permitted. The nomination states that the intention of management is to “safeguard the ongoing evolutionary and natural dynamic processes to preserve the entire biological diversity of the beech forests” which is undoubtedly the aim of management inside the strictly protected zones of the components. However, all nominated components lie within larger protected systems and the States Parties in supplementary information have advised that “usually, the borders of the buffer zone

are already aligned with existing protected area zoning systems". The nomination provides some general information on how the buffer zones will be managed but despite these assurances, IUCN remains unclear about the degree to which overall protected area and zone management objectives purposely support the above stated intention specific to the protection of Outstanding Universal Value. As noted above, some buffer zones are very small and there are several management practices in the surrounding protected areas which could impact values within the components.

All the nominated components and clusters are covered by national level plans which stress protection and non-interventionist management policies, a reflection of the strict protection regimes of a Category Ia) protected area. There is no overarching management plan or framework yet in place for the transnational serial property but plans are noted to expand the Integrated Management Strategy of the existing trinational site to include other countries should the extension be approved (discussed further below).

Resourcing levels (staffing capacity and budgets) are variable across the ten States Parties. The nomination reports that staffing levels vary between 4 and approximately 150 active employees in the nominated component parts and surroundings. Contrasts exist for example in Bulgaria where the Central Balkan National Park appears to be relatively well resourced (ca. 70 staff); however, in Romania the components were considered to be suffering from inadequate budgets and staffing. The nomination did not provide detailed country by country budget proposals should the extension be approved, again as the management of the components is more often absorbed into larger protected area operations. In general, and given the level of threats, the staffing and budgets are considered adequate for the management of the nominated components noting that many sit within larger protected areas. Beyond national level resourcing is the question of how coordination across the multinational serial site will be funded. This is not specified except for a commitment to action funding once the extension is approved. IUCN would like to see a more quantified commitment to the funding that will be necessary to enable an effective transnational serial site of this unprecedented scope. At this stage, IUCN is concerned that an appropriate level of precision in this matter is not in place, and notes that the arrangements for the current nominated property have not prevented serious issues being adequately addressed regarding State of Conservation. There appears a significant risk for the Convention, given the doubts regarding the effectiveness of protection of the individual component parts, of an unmanageable conservation caseload, unless the adequacy and durability of sustainably funded international cooperation is guaranteed. Please see also section 5.1c.

Given concerns regarding the lack of an overarching management framework and a long-term sustainable financial mechanism for the transnational serial site,

IUCN considers the management of the nominated property does not meet the requirements of the Operational Guidelines.

4.4 Community

In general, these forest components are embedded in larger protected areas which are uninhabited. The IUCN missions did not detect any particularly contentious issues with communities. There are variable levels of awareness of the nomination process and the degree of community participation in management is also varied across the different States Parties depending on their governance approaches. The nomination dossier emphasizes the importance of stakeholder involvement to foster favorable local perceptions and identifies relevant stakeholders from NGOs, forest management representatives or forest administrations, hunting and tourist associations, as well as representatives of local landowners and communal administrations. There are also Integrated Management Panels (IMPs) which operate as local platforms of communication between the component part management and stakeholders. The IMPs will be integrated into existing participatory structures where they exist and/or established at each component/cluster level. Some IUCN field missions noted poor community engagement practices for example where stakeholders were not invited to meet with the evaluator.

4.5 Threats

Threats regarding the small size of many components and the status of, and activities within, buffer zones are noted above and not repeated here in detail. The forests nominated are remnants of once more extensive beech forest across Europe and are generally strictly protected areas embedded within larger less strictly protected areas. Several of the components are difficult to access even though they exist in visited national parks. The nomination notes that development pressures are not significant with most components being remote from developed areas, the exception being the Sonian Forest in Belgium which is adjacent to the city of Brussels. In the case of the Belgium components there is risk of atmospheric pollution on tree growth, fragmentation impacts and intense use given the proximity to urban areas.

Environmental pressures elsewhere are mostly therefore more indirect and threats arise, not so much in the components themselves but in the surrounding protected areas through practices such as grazing/transhumance, silviculture, gathering of plants and mushrooms, recreational activities and so forth. An example is grazing within the Central Balkans National Park which is managed by annual quotas to local herders and where there is pressure to see additional areas opened to stock. Here grazing may impact seedlings and young trees limiting the natural ecological development of forests beyond the nominated areas. As discussed above, the size and efficacy of the buffer zones needs to be reviewed to mitigate against these potential threats to the components themselves.

Several components permit public access through hiking trails; however, these threats appear to be limited or adequately managed in more popular areas. In the event of the extension being approved, a potential growth in visitor interest may result and this eventuality would need to be anticipated and planned for.

Climate change is noted as a potential threat to these forests for example through changes in precipitation and increasing aridity. However, studies have shown that European Beech seems to have a high tolerance to climatic variables and competes well under all climatic conditions.

In Albania, a hydropower project has been approved within the boundaries of the Valbona Valley National Park and some preparatory construction works appear to have started. At least ten more hydropower projects are planned on the Valbona River, some of them within the national park and there are other controversial hydro developments in other parts of the country such as the Vjosa River. Whilst these are unlikely to directly impact the nominated areas, there are hard to predict impacts on hydrology, ecology and social systems.

In summary, IUCN considers that whilst the condition and protection of many individual components is good, buffer zones are not adequate and the integrity requirements of the Operational Guidelines are not met by the nominated extension.

5. ADDITIONAL COMMENTS

5.1 Consideration in relation to serial properties

a) What is the justification for the serial approach?

The precedent of previous evaluations and Committee decisions has established that a serial approach is necessary to relate a pan-European story of Outstanding Universal Value for the post-glacial spread and development of European Beech. The Committee's decision which encourage the States Parties to define what constitutes "a finite serial transnational nomination" implies that this approach is not only justified but desirable to tell a complete story.

The altered landscape of Europe has also created 'islands' of intact primeval and ancient beech forest in a 'sea' of settlement which means a series of separate components and clusters is necessary to demonstrate Outstanding Universal Value.

This nomination again raises the question of what would constitute a finite serial site for European Beech forest as has been called for by the World Heritage Committee. IUCN notes that, despite the current, multi-component nomination for extension, there remains the potential and perhaps the necessity for additional sites to be added progressively. The site selection process canvassed a wider array of States Parties, some of whom were reportedly (by the nominating States Parties) not interested or unable to participate at the time, and the State Party of Poland withdrew its

components prior to evaluation. The States Parties have acknowledged the scope for further additions to this site whilst noting that potential is limited, as all but two of the European BFRs would be represented if the current extension were to be approved.

Thus a serial approach is justified in principle, however the present nomination is not, as was requested by the Committee, either of itself a finite series, nor is it indicating what an eventual finite series could be.

b) Are the separate component parts of the nominated property functionally linked in relation to the requirements of the Operational Guidelines?

Many of the components nominated for extension as well as the existing components of the Primeval Beech Forests of the Carpathians and the Ancient Beech Forests of Germany World Heritage property are linked through the common post-glacial development of a single species (*F. sylvatica*) across Europe. Nevertheless, some components such as those in Belgium are not considered to contribute to this Outstanding Universal Value as they do not represent natural ecological processes. Furthermore, there are no direct functional linkages in terms of the assurance of conservation between the majority of the components, which are "islands" of strictly protected forest with weak buffer zones in some cases.

c) Is there an effective overall management framework for all the component parts of the nominated property?

There is, at this time, no effective overall management framework in place for all the component parts of the nominated property nor is there an indicative budget to support the effective coordination which will be necessary for this proposed complex transnational serial property. There is nonetheless a strong history of cooperation between the nominating States Parties through the processes of site selection and preparing the nomination.

A Joint Management Plan (JMP) was in place between Slovakia and Ukraine and was expanded to include Germany in an Integrated Management System (IMS) that outlined the mechanism for trilateral cooperation between the three countries following the extension of 2011. The current nomination proposes that upon approval the IMS will be further expanded to encompass all components across the 12 States Parties. Further that a Joint Declaration of Intent agreed between the Slovakia, Ukraine and Germany has been extended to include the new States Parties and will be signed upon approval of the extension. Some details of the proposed expanded IMS are provided in the nomination. As part of the IMS, a similarly expanded Joint Management Committee (JMC) is foreseen to oversee integrated transnational management across the property. IUCN raised concerns with the States Parties that all these coordination mechanisms remain proposals until an extended site is realized. The Parties in supplementary information have clarified that the statutory limitations for most countries mean the measures can only be introduced following inscription. A similar situation exists with transnational financing mechanisms. All 12

concerned States Parties have indicated on 22 March 2017 a commitment to fund a coordinator for multilateral Joint Management for 12 years should the extension be approved.

The States Parties have also provided details of a European Beech Forest Network (EBFN) which has been formerly registered as of February 2017. The EBFN is a very positive initiative which aims to network all old growth beech forests across Europe with a special focus on World Heritage listed forests. The EBFN also proposes the development and implementation of a coherent monitoring system and set of quality assurance standards across all of these old growth sites in Europe.

5.2 The basis of Outstanding Universal Value

IUCN has found the evaluation of this extension conceptually challenging (and also clearly flawed) in terms of the way in which the previous nomination has evolved, and the degree to which the present extension represents a further change and lowering of the standard in the present nomination, and a dilution of the concept of Outstanding Universal Value. This is a World Heritage property which, through various extensions, has undergone a change in the understanding of its Outstanding Universal Value from primeval forests to ancient forests. It has also seen a progressive decrease in the size of nominated components (now argued by the State Parties as a 50 ha minimum size) and a significant decrease in the average size of buffer zones and with different and inconsistent configurations from country to country.

IUCN recalls that the purpose of inscription under criterion (ix) is fundamentally about recognising naturalness, not the adaptation of natural systems to past human use. Furthermore, IUCN notes that the definition of a finite series requires a firm understanding of underlying concepts and what the eventual series could become – including all States Parties to whom a nomination would be relevant, and not only those currently in a position to nominate. As a result, IUCN is concerned the coherent whole that the nomination seeks is not clear, and nor conformable with the concept of Outstanding Universal Value under criterion (ix). The IUCN Panel is concerned that the extension clearly results in “lowering the bar” on principles regarding the approach to Outstanding Universal Value that are inherent in the present inscribed site. Three models of natural World Heritage property can be considered with respect to criterion (ix): 1) large intact ecosystems, 2) smaller biogeographic islands and 3) serial approaches comprising fragmented remnants of once larger intact systems. For the latter, which is the logic of the present nomination, it is important, in IUCN’s view, that the basis of Outstanding Universal Value continues to be places of exceptional value and thus the component parts should themselves be included on a highly selective basis of the most natural remaining areas. They should not include components selected within a minimal standard as the rationale for inclusion.

The conceptualisation issue is further implicit in the proposed new name of this property: “Primeval Beech Forests of the Carpathians and Other Regions of Europe”. IUCN recalls the evolving understanding of the values of these forests from primeval to ancient but that some components in this current nomination, in IUCN’s view, are neither primeval nor clearly ancient. Thus, the name of the property appears inaccurate as a description for the concept for a series of primeval, and the most ancient, natural beech forest ecosystems of Europe.

5.3 Option for strategy to complete a finite transnational serial nomination

IUCN further draws to the attention of the Committee the great challenge posed by the unprecedented ambition of the nomination, which, despite the admirable degree of international collaboration, also demonstrates clear challenges regarding the ability to achieve coordination and consistency, as well as the functioning of the Convention (for example it was not possible to undertake the evaluation using the normal evaluation mission process, nor within the normal budget for evaluations). Furthermore, it must be noted that this complexity is present in an extension of an existing serial site where, between only three State Parties, conservation issues have arisen requiring the consideration of the Committee.

IUCN restates that the World Heritage Committee has clearly, and correctly, indicated the need for a process that leads to a finite series, but is concerned as the present nomination has not clarified what would constitute a finite result since States that might eventually wish to participate are not included in the nomination, nor in any wider technical framework guiding it. One solution to this (aside from a much more rigorously selective approach to site selection, which would of itself reduce complexity) may be to undertake, as a next step, a collaborative technical exercise, including IUCN in the roles conceived in the Operational Guidelines for the “upstream process”, in order to define what an overall finite series (of the most outstanding component parts, with the highest integrity in relation to natural ecosystems) would be in order to maintain a series that would meet criterion (ix). This would involve agreement on the conceptualization of Outstanding Universal Value in relation to criterion (ix); the definition of the necessary rigorous site selection process and site and buffer design principles to be considered; and the means to define and progressively put in place the necessary durable overall transnational management system. With this defined it could be more practical, and manageable for the Convention, for relevant States Parties to then proceed to nominate a limited and coordinated set of extensions based on their necessary national processes. This would both lead to a finite series of unquestionable Outstanding Universal Value, but also ensure that in creating it the standards of the Convention are fully upheld.

6. APPLICATION OF CRITERIA

The **Primeval Beech Forests of the Carpathians and Other Regions of Europe** has been nominated as an extension to the Primeval Beech Forests of the Carpathians and the Ancient Beech Forests of Germany (Slovakia, Ukraine and Germany) under natural criteria (ix).

Criterion (ix): Ecosystems/communities and ecological/biological processes

The nomination dossier proposes the values of an extended property to be “indispensable to understand the history and evolution of the genus *Fagus*, which, given its wide distribution in the Northern Hemisphere and its ecological importance, is globally significant. Beech is one of the most important elements of forests in the Temperate Broadleaf Forest Biome and represents an outstanding example of the recolonization and development of terrestrial ecosystems and communities since the last ice age”. IUCN concurs with this description of the values which any series of components should possess to potentially meet criterion (ix), but does not consider that the nomination meets either the requirement to represent this phenomenon, nor does it meet the requirements of Outstanding Universal Value as defined in the Operational Guidelines. Concerns include that the nominated extension series includes some components that are neither primeval nor ancient; reduces the standard of integrity as related to the present series by selecting sites at (and in some cases even below) a minimal standard, rather than the most exceptional sites; and does not represent (or indicate what could be) an eventual finite selection for a serial property. IUCN considers that a much more selective and better configured series, with redesigned component part and buffer zone boundaries would be required in order to meet criterion (ix), as an extension of the present inscribed series. This could involve some of the nominating and some other State Parties, and could certainly include some of the component parts in the present nomination of greatest nature conservation significance.

IUCN considers that, the nominated extension does not meet this criterion.

7. RECOMMENDATIONS

IUCN recommends that the World Heritage Committee adopts the following draft decision:

The World Heritage Committee,

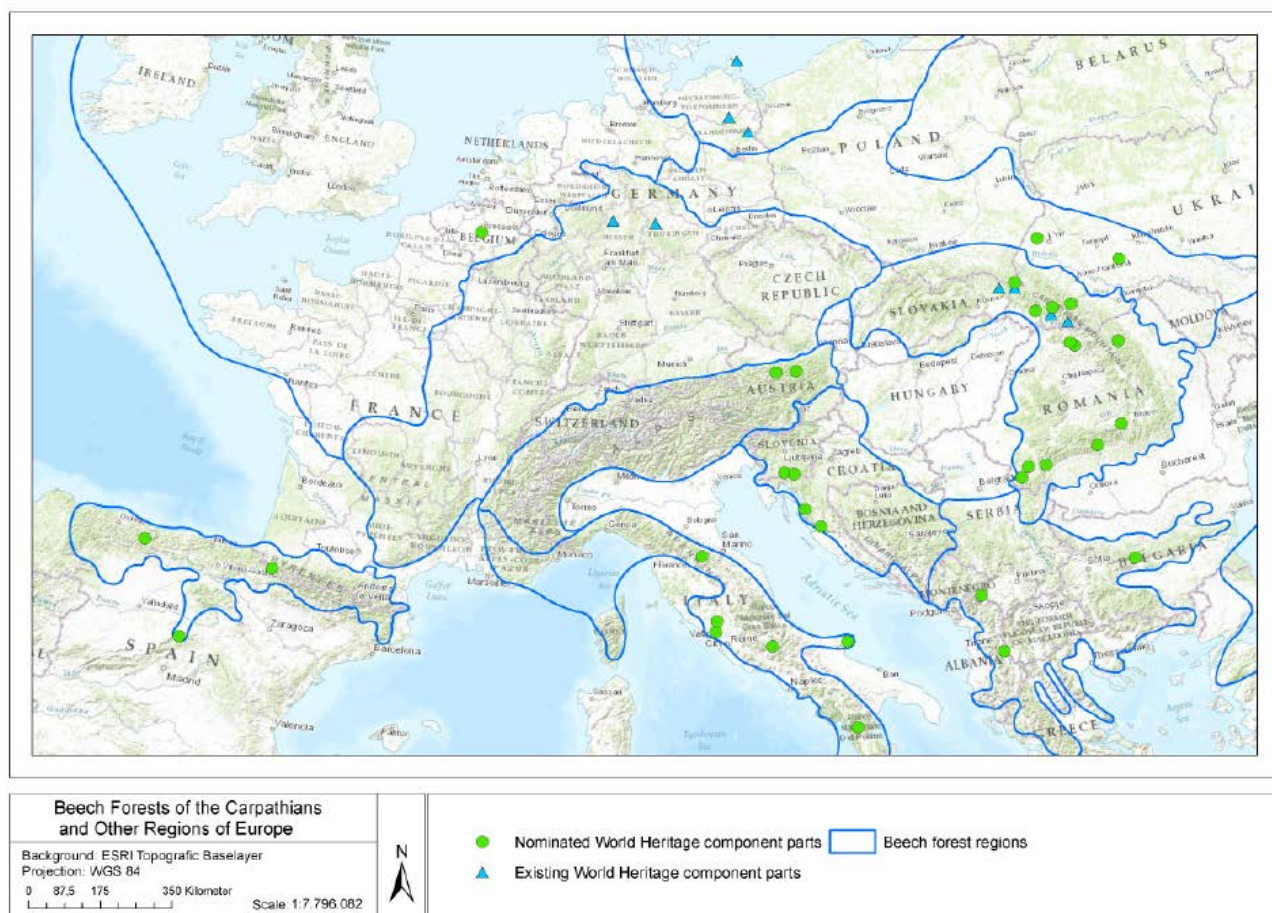
1. Having examined Documents WHC/17/41.COM/8B and WHC/17/41.COM/INF.8B2;

2. Defers the nomination of the **Primeval Beech Forests of the Carpathians and Other Regions of Europe (Albania / Austria / Belgium / Bulgaria / Croatia / Italy / Romania / Slovenia / Spain / Ukraine)** taking note of the potential for parts of the nominated property to meet criterion (ix), in order to allow the relevant States Parties, with the support of IUCN if requested, to:

- a) Critically review component site selections and configurations to ensure ecological viability, and propose a much more selective set of series, of fewer, larger and more natural components representing the most intact primeval and ancient forests, retaining the standards and basis for Outstanding Universal Value of the presently inscribed series in Germany, Slovakia and Ukraine.
- b) Critically review buffer zone design and effectiveness to ensure a consistent approach; to align boundaries with existing protected area zoning boundaries; to expand buffer zones to fully surround components where they are in close proximity; and to ensure the buffer zones prescribe how potentially impactful activities will be mitigated to safeguard the integrity of the nominated components and allow room for the continued expansion of natural forest development.
- c) Define a clearly understood finite series, based on a clearly defined Statement of Outstanding Universal Value and property name that is coherent with the current inscribed property, within which any further nominated extensions would be clearly and consistently configured.
- d) Assure that any further nomination provides clear and committed funding arrangements, to support consistent national site management as well as coordinated management across the complex transnational serial property and, should the extension be approved, guarantee overall, protection levels and consistent standards to avoid any recurrence of the type of conservation issues which have arisen in the existing World Heritage property.

3. Thanks the States Parties for their cooperation in developing this nomination and encourages them, and the other relevant States Parties, to continue close cooperation through the expansion of the Integrated Management System and the implementation of the European Beech Forest Network that ensure the protection of the functional linkages between the component parts, harmonized monitoring, research and standard setting and the sharing of technical expertise.

Map 1: Location of the nominated component parts in Europe



See the detailed maps of each component parts in the nomination dossier, pp. 21-53